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Monthly Report

25X1

PAR 243
31 Jan 66

SUBJECT: Briefing Print Enlarger (Prototype)

TASK/PROBLEM

1. Design, fabricate, and test a prototype briefing print enlarger based upon tests and observations of the breadboard equipment developed on the combined PAR 202/224.

DISCUSSION

2. Tests on the breadboard equipment were started. Design concept studies were also begun for revision of the lamphouse design, lens interchange mechansim design, and the photometer arrangement (to provide spot photometry at the easel).

3. The tests conducted on the breadboard equipment were to measure the performance of the various lenses in red, green, and blue light. As was expected from the calculated data for the design of the 40X to 60X black-and-white lens, it is not suitable for color printing. The 40X to 60X color lens is less satisfactory for black-and-white printing than its counterpart, primarily because of smaller aperture and the resulting diffraction limitation. Since there is no requirement for 40X or higher magnification of color material, the black-and-white 40X to 60X lens will be used on the prototype.

4. The lamphouse and lens interchange design are primarily mechanical and must be explored further to evaluate possible simplification and improvement in function.

5. There is no commercially available easel photometer which can read easel illuminance with a 3mm aperture at the easel with the color filters used in the breadboard enlarger lamphouse. The basic response sensitivity of the [redacted] EP1000 photometer appears adequate, provided all the energy reaching a 3mm aperture at the enlarger easel can be placed

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on the photomultiplier cathode. This is a straightforward optical engineering problem, but it will require a photometer with some special components. The design and fabrication of the required special photometer will probably be subcontracted.

PLANNED ACTIVITY

6. Effort will be continued in the following areas:

a. Lens tests and other tests on the breadboard enlarger.

b. Design studies on the lamphouse and lens interchange system.

Specifications will be written and discussed with the potential subcontractor of the special photometer.

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Monthly Report

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PAR 243

31 Dec 65

SUBJECT: Briefing Print Enlarger (Prototype)

TASK/PROBLEM

1. Design, fabricate and test a prototype briefing print enlarger based upon tests and observations of the breadboard equipment developed on the combined PAR 202/224.

DISCUSSION

2. Authorization to proceed with this project was given by TWX dated 13 December.

3. Preliminary organizational planning was started.

4. In the authorization, various directives were given for desired changes from the breadboard model design. These may in some degree change the design approach to the prototype enlarger from that described in the contractor's 5 November proposal. After some progress is made in the prototype design studies, the probable effect on project cost of these changes and other desirable changes recognized in the contractor's test and observations on the breadboard can be evaluated.

PLANNED ACTIVITY

5. Proceed with design studies and further tests on the breadboard equipment.

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